

Claims:

1. A method of operating a routing server to support a telephone call received by a first Internet service provider, the method comprising:

5 receiving a query over the Internet from the first Internet service provider that includes a telephone number associated with the telephone call;

processing the telephone number from the query to identify a first Internet address associated with a second Internet service provider; and

10 sending a response that indicates the first Internet address over the Internet to the first Internet service provider, wherein the first Internet service provider uses the first Internet address to route the telephone call over the Internet to the second Internet service provider.

15 2. The method of claim 1 further comprising generating the response that indicates the first Internet address.

3. The method of claim 1 wherein processing the telephone number comprises selecting a backup Internet address for the first Internet address and generating the response that also indicates the backup Internet address.

20 4. The method of claim 1 wherein the telephone call is to a service operation that includes at least one of a product ordering system, a calling card system, a reservation system, and a customer service system.

25 5. The method of claim 1 wherein processing the telephone number comprises processing a time of day.

6. The method of claim 1 wherein processing the telephone number comprises processing an identity of the first Internet service provider.

7. The method of claim 1 wherein processing the telephone number comprises processing an identity of the second Internet service provider.

8. The method of claim 1 wherein the telephone call includes voice communications.

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9. The method of claim 1 wherein the telephone call includes facsimile communications.

10. The method of claim 1 wherein the telephone call includes modem communications.

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11. The method of claim 1 wherein the telephone call includes video communications.

12. The method of claim 1 wherein the first Internet service provider comprises a communications system that includes an Internet gateway.

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13. The method of claim 1 wherein the second Internet service provider comprises a communications system that includes an Internet gateway.

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14. A routing system to support a telephone call received by a first Internet service provider, the routing system comprising:

a communication interface configured to receive a query over the Internet from the first Internet service provider that includes a telephone number associated with the telephone call and configured to send a response that indicates a first Internet address over the Internet to the first Internet service provider, wherein the first Internet service provider uses the first Internet address to route the telephone call over the Internet to the second Internet service provider; and

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a server connected to the communication interface and configured to process the telephone number from the query to identify the first Internet address associated with a second Internet service provider.

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15. The routing system of claim 14 wherein the server is further configured to generate the response that indicates the first Internet address.

16 The routing system of claim 14 wherein the server is further configured to process
5 the telephone number to select a backup Internet address for the first Internet address and generate the response that also indicates the backup Internet address.

17. The routing system of claim 14 wherein the telephone call is to a service operation that includes at least one of a product ordering system, a calling card system, a
10 reservation system, and a customer service system.

18. The routing system of claim 14 wherein the server is further configured to process process a time of day.

19. The routing system of claim 14 wherein the server is further configured to process
15 an identity of the first Internet service provider.

20. The routing system of claim 14 wherein the server is further configured to process an identity of the second Internet service provider.

21. The routing system of claim 14 wherein the telephone call includes voice communications.

22. The routing system of claim 14 wherein the telephone call includes facsimile
25 communications.

23. The routing system of claim 14 wherein the telephone call includes modem communications.

24. The routing system of claim 14 wherein the telephone call includes video
30 communications.

25. The routing system of claim 14 wherein the first Internet service provider comprises a communications system that includes an Internet gateway.

26. The routing system of claim 14 wherein the second Internet service provider
5 comprises a communications system that includes an Internet gateway.

27. The routing system of claim 14 wherein the communication interface comprises an Internet gateway.

10 28. A software product to support a telephone call received by a first Internet service provider, the software product comprising:

software configured to direct a processor to receive a query over the Internet from the first Internet service provider that includes a telephone number associated with the telephone call, process the telephone number from the query to identify a first Internet
15 address associated with a second Internet service provider, and send a response that indicates the first Internet address over the Internet to the first Internet service provider, wherein the first Internet service provider uses the first Internet address to route the telephone call over the Internet to the second Internet service provider; and

a server system configured to operate the software.

20 29. The software product of claim 28 is further configured to direct the processor to generate the response that indicates the first Internet address.

30. The software product of claim 28 is further configured to direct the processor to
25 select a backup Internet address for the first Internet address and generate the response that also indicates the backup Internet address.

31. The software product of claim 28 wherein the telephone call is to a service
30 operation that includes at least one of a product ordering system, a calling card system, a reservation system, and a customer service system.

32. The software product of claim 28 is further configured to direct the processor to process a time of day.

33. The software product of claim 28 is further configured to direct the processor to process an identity of the first Internet service provider.

34. The software product of claim 28 is further configured to direct the processor to process an identity of the second Internet service provider.

35. The software product of claim 28 wherein the telephone call includes voice communications.

36. The software product of claim 28 wherein the telephone call includes facsimile communications.

37. The software product of claim 28 wherein the telephone call includes modem communications.

38. The software product of claim 28 wherein the telephone call includes video communications.

39. The software product of claim 28 wherein the first Internet service provider comprises a communications system that includes an Internet gateway.

40. The software product of claim 28 wherein the second Internet service provider comprises a communications system that includes an Internet gateway.

41. A method of operating a routing server to support telephone calls over the Internet between Internet service providers, the method comprising:

receiving queries over the Internet, wherein the queries include telephone numbers associated with the telephone calls;

5 processing the telephone numbers to identify Internet addresses, wherein at least some of the Internet addresses are for routing the telephone calls between different ones of the Internet service providers; and

sending responses over the Internet to the Internet service providers, wherein the responses indicate the Internet addresses.

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42. The method of claim 41 further comprising generating the responses that indicate the Internet addresses.

43. The method of claim 41 wherein processing the telephone numbers comprises
15 selecting backup Internet addresses for the Internet addresses and generating the responses that also indicate the backup Internet addresses.

44. The method of claim 41 wherein some of the telephone calls are to a service operation that includes at least one of a product ordering system, a calling card system, a
20 reservation system, and a customer service system.

45. The method of claim 41 wherein processing the telephone numbers comprises processing a time of day.

25 46. The method of claim 41 wherein processing the telephone numbers comprises processing identities of the Internet service providers.

47. The method of claim 41 wherein at least some of the telephone calls include voice communications.

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48. The method of claim 41 wherein at least some of the telephone calls include facsimile communications.

49. The method of claim 41 wherein at least some of the telephone calls include
5 modem communications.

50. The method of claim 41 wherein at least some of the telephone calls include video communications.

10 51. The method of claim 41 wherein at least some of the Internet service providers comprise communications systems that include Internet gateways.

52. A routing system to support telephone calls over the Internet between Internet service providers, the routing system comprising:

15 a communication interface configured to receive queries over the Internet and configured to send responses over the Internet to the Internet service providers, wherein the queries include telephone numbers associated with the telephone calls and the responses indicate Internet addresses; and

20 a server connected to the communication interface and configured to process the telephone numbers to identify the Internet addresses, wherein at least some of the Internet addresses are for routing the telephone calls between different ones of the Internet service providers.

53. The routing system of claim 52 wherein the server is further configured to
25 generate the responses that indicate the Internet addresses.

54 The routing system of claim 52 wherein the server is further configured to process the telephone numbers to select backup Internet addresses for the Internet addresses and generate the responses that also indicate the backup Internet addresses.

55. The routing system of claim 52 wherein some of the telephone calls are to a service operation that includes at least one of a product ordering system, a calling card system, a reservation system, and a customer service system.

5 56. The routing system of claim 52 wherein the server is further configured to process a time of day.

57. The routing system of claim 52 wherein the server is further configured to process identities of the Internet service providers.

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58. The routing system of claim 52 wherein at least some of the telephone calls include voice communications.

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59. The routing system of claim 52 wherein at least some of the telephone calls include include facsimile communications.

60. The routing system of claim 52 wherein at least some of the telephone calls include include modem communications.

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61. The routing system of claim 52 wherein at least some of the telephone calls include include video communications.

62. The routing system of claim 52 wherein at least some of the Internet service providers comprise communications systems that include Internet gateways.

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63. The routing system of claim 52 wherein the communication interface comprises an Internet gateway.

64. A software product for supporting communications for telephone calls over the Internet between Internet service providers, the software product comprising:

software configured to direct a processor to receive queries over the Internet, process telephone numbers to identify Internet addresses, and send responses over the Internet to the Internet service providers, wherein the queries include the telephone numbers associated with the telephone calls, the responses indicate the Internet addresses, and at least some of the Internet addresses are for routing the telephone calls between different ones of the Internet service providers; and

a server system configured to operate the software.

65. The software product of claim 64 is further configured to direct the processor to generate the responses that indicate the Internet addresses.

66. The software product of claim 64 is further configured to direct the processor to select backup Internet addresses for the Internet addresses and generate the responses that also indicate the backup Internet addresses.

67. The software product of claim 64 wherein some of the telephone calls are to a service operation that includes at least one of a product ordering system, a calling card system, a reservation system, and a customer service system.

68. The software product of claim 64 is further configured to direct the processor to process a time of day.

69. The software product of claim 64 is further configured to direct the processor to process identities of the Internet service providers.

70. The software product of claim 64 wherein at least some of the telephone calls include voice communications.

71. The software product of claim 64 wherein at least some of the telephone calls include facsimile communications.

72. The software product of claim 64 wherein at least some of the telephone calls include modem communications.

73. The software product of claim 64 wherein at least some of the telephone calls include video communications.

74. The software product of claim 64 wherein at least some of the Internet service providers comprise communications systems that include Internet gateways.

75. The software product of claim 64 wherein the server system comprises an Internet gateway.